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EXAMINER	
FERTIG, BRIAN E	
ART UNIT	PAPER NUMBER
3694	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/751,748	VAN LIER, EDOUARD	
	Examiner	Art Unit	
	BRIAN FERTIG	3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/28/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The action is in response to Applicant's filing of 5/28/2008. Claims 1-9 are cancelled and claims 10-41 are pending and examined below.

Claim Objections

1. Claims 10 and 30 objected to because of the following informalities. Appropriate correction is required. These claims recite "the interrelated share price variation" and "the share price variation." First, there is no antecedent basis for these recitations within the claims. Further, it is not clear whether "the share price variation" is meant to depend from "the interrelated share price variation". For the purposes of examination below, it is assumed that the first recitation of "the interrelated share price variation" is meant to be "an interrelated share price variation" and that "the share price variation" is meant to depend on "an interrelated share price variation".

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 10 and 30

These claims recite "the share price variation of the sell candidate stock being greater than the share price variation of the at least one buy candidate stock." Since there is no other clear antecedent basis for "the share price variation" and the Specification does not appear to support a second share price variation metric, it is assumed that "the share price variation" relies on "interrelated share price variation" recited in claim 10b (see also objection above). Under this assumption, it is implicit that a single interrelated share price variation is computed for the pair of stocks. As such, it does not follow that the buy candidate and the sell candidate within the pair could have separate share price variations. For the purpose of Examination below, it is assumed that the recitation "the share price variation of the sell candidate stock being greater than the share price variation of the at least one buy candidate stock" is meant to refer to the contrarian/mean reversion technique disclosed in the Specification and taught by Li (see below).

With respect to claims 11-29 and 31-41

These claims are rejected for incorporating the subject matter rejected above.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 10-29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claims 10-28

These claims recite a process directed to purely mental steps. The Office has taken the position before the Court of Appeals for the Federal Circuit in *In re Bilski*, Appeal No. 2007-1130, that a statutory process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. The Office basis its position on Supreme Court precedent as recited in *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker V. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70-71 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1876). To qualify as a statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example, by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example, by identifying the material that is being changed to a different state.

Applicant is also directed to MPEP § 2173.05p, providing guidance with respect to reciting a product and process in the same claim and MPEP § 2111.02 [R3] providing guidance with respect to the effect of limitations within the preamble of a claim.

With respect to claim 29

This claim is directed to " A computer spreadsheet having programmable cells." A computer spreadsheet is functional descriptive material. Functional descriptive material, such as programs, not claimed as embodied in computer-readable

media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. (See MPEP § 2106.01 for further discussion)

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 10, 12-14, 22-23, 25, 30, 32-33, 38, and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,832,210 to Li (Li).

With respect to claim 10

Li teaches:

A method for improving the return of an investment portfolio including a plurality of shares for each of a plurality of different stocks, the method comprising the steps of:

a) forming pairs of said stocks, each pair including a first and a second stock, at least one of the stocks belonging to a plurality of pairs of stocks (see col 5, lines 23-34 and claim 1, step a, note that every possible

pairing is constructed since the correlation coefficient for every pair is calculated);

b) for each of the pairs of stocks,

i) determining the interrelated share price variation between the first and the second stock of said pair (i.e. computing the correlation coefficient/de-trended coefficient, see col 5, lines 34-57 and claim 1, step a and d);

ii) comparing the interrelated share price variation with a predetermined price variation threshold and thereby triggering a signal to sell shares of one of the first and second stock and to buy shares of the other of the first and second stock; and (see col 5, lines 49-57, col 6, lines 5-7, and claim 1, step b and e),

iii) when the interrelated share price variation exceeds the predetermined price variation threshold, tagging the pair and subsequently initializing the interrelated share price variation (i.e. selecting pair trades with high correlation coefficients for further analysis, see col 5, line 48-col 6, line 7 and claim 1, step e);

c) after at least one pair of stocks have been tagged,

i) selecting one sell candidate stock from the tagged pairs of stocks (see col 6, lines 62-67); and

ii) selecting at least one buy candidate stock from the tagged pairs of stocks which includes a said sell candidate stock, the share price variation of the sell candidate stock being greater than the share price variation of the at least one buy candidate stock (see col 6, lines 62-67, note that profit is made by shorting over priced stock and at the same time buying the under priced stock.).

With respect to claim 12

Li teaches:

The method of claim 10 (see rejection of claim 10 above) wherein the step of forming pairs of said stocks comprises forming all possible pairs of said stocks (see claim 1, steps a and d).

With respect to claim 13

Li teaches:

The method of claim 10 (see rejection of claim 10 above) wherein steps b) and c) are carried out periodically (see col 5, line 20-22, note that Li teaches a continuous process).

With respect to claim 14

Li teaches:

The method of claim 10 (see rejection of claim 10 above) wherein the step of forming pairs of said stocks comprises forming all possible pairs of said stocks

(see claim 1, steps a and d) and wherein steps b) and c) are carried out periodically (see col 5, line 20-22, note that Li teaches a continuous process).

With respect to claim 22

Li teaches:

The method of claim 10 (see rejection of claim 10 above) further comprising the step of displaying an alert when an interrelated share price variation exceeds said predetermined price variation threshold (see col 6, lines 62-67, note that the investor is given the opportunity to make the investment, it is therefor fairly suggested the an alert was displayed, see also col 7, lines 30-37, note that the investor is advised as to when to enter into the investment).

With respect to claim 23

Li teaches:

The method of claim 22 (see rejection of claim 22 above) wherein said alert comprises an indication to the corresponding first and second stock (see col 6, lines 62-67 and col 7, lines 30-37, note that it is fairly suggested that the alert contain an indication of the corresponding stock since the trader must trade particular stocks to take advantage of the alert).

With respect to claim 25

Li teaches:

The method of claim 10 (see rejection of claim 10 anove) further comprising the step of on-line monitoring the current market share price of the stocks included in the pairs of stocks (see col 5, lines 15-34 in combination with col 7, lines 30-37,

note that the system accesses a market server, which surveys hundreds of stocks. The combination fairly suggest online monitoring).

With respect to claim 30

See rationale supporting the rejection of claim 10 above. Note that Li teaches his invention as embodied on a market server utilizing software. This fairly suggests "A computer program stored on a computer readable storage medium."

With respect to claim 32

See rationale supporting the rejection of claim 12 above.

With respect to claim 33

See rationale supporting the rejection of claim 13 above.

With respect to claim 38

See rationale supporting the rejection of claim 22 above.

With respect to claim 40

See rationale supporting the rejection of claim 25 above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 11, 27-28, 31, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li.

With respect to claim 11

Li teaches:

> The method of claim 10 (see rejection of claim 10 above), but does not explicitly teach wherein said predetermined price variation threshold is a range of 5 to 30 percent.

It would have been obvious to on having ordinary skill in the art at the time of Applicant's invention to have optimized the ranges of Li (i.e. 0.88, see col 5, lines 48-57)

With respect to claim 27

Li teaches:

> The method of claim 10 (see rejection of claim 10 above) further comprising the investment portfolio monitoring steps of:
>
> for each stock of the investment portfolio, monitoring the share price variation (see Li, col 7, lines 30-38, note that progress is monitored. It is fairly suggested that share price is included in this monitoring since it is the difference in share prices that are an indicator of progress – i.e. whether the investment strategy is working); and,
>
> monitoring the variation of the total amount of shares (see Li, col 7, lines 30-38, note that monitoring of a cut-loss is maintained suggesting share monitoring since the number of shares would be crucial in determining whether the cut-loss level had been reached); and,
>
> monitoring the variation of the investment portfolio value (see Li, col 7, lines 30-38, note that monitoring of a cut-loss is maintained).

With respect to claim 28

Li teaches

> The method of claim 27 (see rejection of claim 27 above) further comprising the step of monitoring the share price variance of each stock of the investment portfolio (see Li, col 5, lines 15-22, note that Li teaches a continuous process, fairly suggesting ongoing monitoring of the share price variance).

With respect to claim 31

Li teaches:

> The computer program of claim 30 (see rejection of claim 30 above) but does not explicitly teach wherein said predetermined price variation threshold is a range of 5 to 30 percent.

It would have been obvious to on having ordinary skill in the art at the time of Applicant's invention to have optimized the ranges of Li (i.e. 0.88, see col 5, lines 48-57)

With respect to claim 41

See rationale supporting the rejection of claim 27 above.

10. Claims 15-21, 24, 26, 34-37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of US Patent Application Publication 2003/0101129 for Waddell (Waddell).

With respect to claim 15

Li teaches:

> The method of claim 10 (see rejection of claim 10 above) but does not explicitly teach further comprising the step of determining a number of shares of the sell candidate stock to be sold as a proportion of the total number of shares of the sell candidate stock in the investment portfolio.

Waddell teaches:

> further comprising the step of determining a number of shares of the sell candidate stock to be sold as a proportion of the total number of shares of the sell candidate stock in the investment portfolio (i.e. sell ratio, see par 36).

It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have provided Li with the parameters of Waddell in order to have allowed a user to select suitable parameters for executing the trade as taught explicitly by Waddell (see par 40)

With respect to claim 16

Li in view of Waddell teaches:

> The method of claim 15 (see rejection of claim 15 above) but does not explicitly teach wherein the proportion of the total number of shares of the sell candidate stock in the investment portfolio is a range of 20 to 100 percent.

It would have been obvious to on having ordinary skill in the art at the time of Applicant's invention to have optimized the ratios of Waddell (see par 38)

With respect to claim 17

Li in view of Waddell teaches:

> The method of claim 15 (see rejection of claim 15 above) but does not explicitly teach wherein the proportion of the total number of shares of the sell candidate stock in the investment portfolio is 50 percent.

It would have been obvious to on having ordinary skill in the art at the time of Applicant's invention to have optimized the ratios of Waddell (see par 38)

With respect to claim 18

Li in view of Waddell teaches:

> The method of claim 15 (see rejection of claim 15 above) wherein the proportion of the total number of shares of the sell candidate stock in the investment portfolio is determined as a function of the variation of the total number of shares of the sell candidate stock in the investment portfolio (see Waddell par 34, note that the traunch size is set based on volatility.

(see rationale supporting obviousness and motivation to combine of claim 15 above)

With respect to claim 19

Li in view of Waddell teaches:

> The method of claim 15 (see rejection of claim 15 above) further comprising the step of determining a number of shares of the buy candidate stock to be bought as a function of the quantity and current market price of the shares of the sell candidate stock to be sold (see Waddell par 32).

(see rationale supporting obviousness and motivation to combine of claim 15 above)

With respect to claim 20

Li in view of Waddell teaches:

The method of claim 19 (see rejection of claim 19 above) further comprising the steps of selling the quantity of shares of the sell candidate stock to be sold and buying the quantity of shares of the buy candidate stock to be bought (see Li col 6, lines 62-67).

(see rationale supporting obviousness and motivation to combine of claim 15 above)

With respect to claim 21

Li in view of Waddell teaches:

The method of claim 15 (see rejection of claim 15 above) further comprising the steps of:

comparing the quantity of shares of the sell candidate stock to be sold with a predetermined allowable minimum amount of shares per stock (see Waddell, par 33, note that a minimum number of shares can be indicated); and,

adjusting the quantity of shares of the sell candidate stock to be sold so that the number of shares of the sell candidate stock to be sold remains within the predetermined allowable minimum amount of shares per stock (see Waddell, par 33, note that it is obvious to perform such adjustment in order for the minimum parameter to have any efficacy).

(see rationale supporting obviousness and motivation to combine of claim 15 above)

With respect to claim 24

Li in view of Waddell teaches:

The method of claim 15 (see rejection of claim 15 above) further comprising the step of transmitting an order for selling the quantity of shares of the sell candidate stock to be sold (see Li, col 6, lines 62-67 and col 7, lines 30-37, note that the trade is put on, see also Waddell par 46).

(see rationale supporting obviousness and motivation to combine of claim 15 above)

With respect to claim 26

Lin in view of Waddell teaches:

The method of claim 10 (see rejection of claim 10 above) further comprising the steps of:

determining suitability for at least one stock to be added to said investment portfolio as a function of associated company leadership, value creation, debt to equity or capitalization (see Waddell, par 4, note that the suitability of a stock is a function of value creation in so far as it is added to take advantage of the value created for the investor via the arbitrage opportunity created by the merger); and,

selecting and adding the at least one stock to said investment portfolio as a function of the determined suitability (see Waddell par 4).

It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have provided Lin with the selection criteria of Waddell in order to have allowed an investor to profit from the arbitrage opportunity created by the merger as taught explicitly by Waddell (see par 4)

With respect to claim 34

See rationale supporting the rejection of claim 15 above.

With respect to claim 35

See rationale supporting the rejection of claim 16 above.

With respect to claim 36

See rationale supporting the rejection of claim 19 above.

With respect to claim 37

See rationale supporting the rejection of claim 21 above.

With respect to claim 39

See rationale supporting the rejection of claim 24 above.

11. Claim 29 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,933,815 to Golden (Golden) in view of Li.

With respect to claim 29

Golden teaches:

> A computer spreadsheet having programmable cells (see col 5, lines 37-55, note the spreadsheet implementation), but does not explicitly teach comprising instructions for carrying out each step of the method according to claim 10.

Li teaches:

> comprising instructions for carrying out each step of the method according to claim 10 (see rejection of claim 10 above).

It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have substituted the method of Golden with that of Li in order to

have allowed an investor the opportunity to make profits by short selling over priced stock while buying under priced stock as taught explicitly by Li (see col 6, lines 62-67).

Response to Arguments

12. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the cancellation of these claims and the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

14. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN FERTIG whose telephone number is (571)270-

5131. The examiner can normally be reached on Monday - Friday 8:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (571) 272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B.F./

/Mary Cheung/
Primary Examiner, Art Unit 3694